

Title: Using Tracking to Improve Asthma Information

Keywords: Asthma, Pilot Project, GIS, Maps, Presentation of Data, Stakeholders

Background: Asthma is most commonly characterized by using large scale surveys or by examining asthma hospitalization rates at the zip code level. To better address the problem of asthma, community members, public health professionals, advocacy groups, government officials, and researchers have all indicated the need for better data. The California Environmental Health Tracking Program (CEHTP) Alameda County Pilot Project is exploring methods for improving asthma information.

Objective: Explore the ability of Environmental Public Health Tracking to obtain, analyze, and present asthma data that is relevant and responsive to stakeholder needs.

Methods: CEHTP collaborated with public and private partners to access street address-level data for multiple asthma indicators, including emergency room visits, outpatient visits, and medication purchases. Density estimation was used to create maps of continuous surfaces of rates for each indicator. Monte Carlo Simulations were used to determine areas on the map that had rates which were significantly higher than expected.

Results: These asthma indicators correspond to both a spectrum of severity of disease and to a spectrum of quality of healthcare. High resolution maps of the various indicators enabled the visualization between communities burdened by severe versus less-severe asthma, as well as the identification of communities that are disproportionately experiencing worse asthma and have worse quality of care.

Conclusions: In comparison to currently available asthma information, CEHTP pilot project findings provide a better picture of asthma by using higher resolution data and multiple asthma indicators.

Evaluation: In order to determine if the methods used provided relevant information for stakeholders, results were presented using a stakeholder input process. Participants indicated that the information would be useful for targeting services and other resources, as well as advocating for, developing, and evaluating policies and programs.

Corresponding Author:

Michelle Wong, MPH
Health Educator
Environmental Health Investigations Branch, CA Department of Health Services

1515 Clay Street, Suite 1700
Oakland, CA 94612

mwong@dhs.ca.gov

Phone: 510-622-4479

FAX: 510-622-4505

Additional Authors:

Paul English, PhD MPH (Principal Investigator)

penglish@dhs.ca.gov

Eric M. Roberts, MD PhD

erobert1@dhs.ca.gov

Craig Wolff, MS Eng

cwolff@dhs.ca.gov

Samuel Valdez

svaldez1@dhs.ca.gov

Stephen K. van den Eeden, PhD

skv@dor.kaiser.org

G. Thomas Ray

Tom.Ray@kp.org